AMENDMENTS TO THE CLAIMS:

Claim 1. (Currently amended) A torque sensor comprising:

a first magnetic shaft;

a second shaft elastically rotatably connected to the first shaft;

a nonmagnetic cylindrical magnetism leakage preventing member made of synthetic resin covering an outer periphery of the first shaft;

a magnetic first detecting cylinder covering an outer periphery of the magnetism leakage preventing member;

a magnetic second detecting cylinder integrally rotatable with the second shaft, one end of which is opposed to one end of the first detecting cylinder with a clearance; and

a first coil constituting a first magnetic circuit by generating magnetic flux passing the one end of the first detecting cylinder and the one end of the second detecting cylinder, wherein a reluctance with respect to the passing magnetic flux in the first magnetic circuit is changed in accordance with an elastic relative rotational amount by a change in a transmitting torque of the first and second shafts,

wherein the magnetism leakage preventing member is molded in a state that the first shaft is inserted into the first detecting cylinder, so that the first detecting cylinder and the first shaft are integrated to the magnetism leakage preventing member such that contact between the magnetism leakage preventing member and the first shaft prevents displacement of the magnetism leakage preventing member with respect to the first shaft in at least one of an axial direction and a circumferential direction.

Claim 2. (Currently amended) The torque sensor according to claim 1, further comprising:

a magnetic third detecting cylinder integrally rotatable with the first shaft, one end of which is opposed to other end of the first detecting cylinder with a clearance; and

a second coil constituting a second magnetic circuit by generating magnetic flux passing the other end of the first detecting cylinder and the one end of the third detecting cylinder,

wherein the torque transmitted by the first and second shafts is detected based on a deviation between a value in correspondence with a change in the reluctance with respect to the passing magnetic flux in the first magnetic circuit and a value in correspondence with a change in the reluctance with respect to the passing magnetic flux in the second magnetic circuit, and

wherein the magnetism leakage preventing member is molded in a state that the first shaft is inserted into the first detecting cylinder and the third detecting cylinder, so that the first detecting cylinder, the third detecting cylinder and the first shaft are integrated to the magnetism leakage preventing member.

Claim 3. (Currently amended) The torque sensor according to claim 1, wherein the first shaft comprises ~~is provided with~~ an axial direction displacement restricting portion for restricting a displacement of the magnetism leakage preventing member in an axial direction of the first shaft.

Claim 4. (Currently amended) The torque sensor according to claim 3, wherein the axial

direction displacement restricting portion comprises ~~includes~~ at least one circumferential groove ~~provided~~ at the outer periphery of the first shaft, and

wherein the magnetism leakage preventing member comprises ~~includes~~ at least one ring-shape projected portion for fitting with the at least one circumferential groove.

Claim 5. (Currently amended) The torque sensor according to claim 4, wherein the first shaft comprises a plurality of the circumferential grooves ~~are provided~~ at the outer periphery of the first shaft at intervals in the axial direction, and the magnetism leakage preventing member comprises a plurality of the projected portions ~~are provided at the magnetism leakage preventing member~~ so as to correspond to the plurality of the circumferential grooves.

Claim 6. (Currently amended) The torque sensor according to claim 1, wherein the first shaft comprises ~~is provided with~~ a circumferential direction displacement restricting portion for restricting a displacement of the magnetism leakage preventing member in a circumferential direction of the first shaft.

Claim 7. (Currently amended) The torque sensor according to claim 6, wherein the circumferential direction displacement restricting portion comprises ~~includes~~ at least one axial groove ~~provided~~ at the outer periphery of the first shaft, and

the magnetism leakage preventing member comprises ~~includes~~ at least one axial projected streak for fitting with the at least one axial groove.

Claim 8. (Currently amended) The torque sensor according to claim 7, wherein said first shaft comprises a plurality of the axial grooves ~~are provided~~ at the outer periphery of the first shaft at intervals in the circumferential direction, and said magnetism leakage preventing member comprises a plurality of the axial projected streaks ~~are provided at the magnetism leakage preventing member~~ so as to correspond ~~corresponds~~ to the plurality of the axial grooves.

Claim 9. (Currently amended) A method of manufacturing a torque sensor including: a first magnetic shaft; a second shaft elastically rotatably connected to the first shaft; a nonmagnetic cylindrical magnetism leakage preventing member ~~made~~ covering an outer periphery of the first shaft; a magnetic first detecting cylinder covering an outer periphery of the magnetism leakage preventing member; a magnetic second detecting cylinder integrally rotatable with the second shaft, one end of which is opposed to one end of the first detecting cylinder with a clearance; and a first coil constituting a magnetic circuit by generating magnetic flux passing the one end of the first detecting cylinder and the one end of the second detecting cylinder, wherein a reluctance with respect to the passing magnetic flux in the first magnetic circuit is changed in accordance with an elastic relative rotational amount by a change in a transmitting torque of the first and second shafts, the method comprising ~~the steps of~~:

providing a molding die for molding the magnetism leakage preventing member;

inserting the first shaft and the first detecting cylinder into the molding die; and

after the inserting step, injecting a synthetic resin into the molding die to mold the magnetism leakage preventing member, so that the first shaft and the first detecting cylinder are

integrated to the magnetism leakage preventing member.

Claim 10. (New) The torque sensor of claim 1, wherein the first shaft comprises at least one of:

an axial direction displacement restricting portion that restricts a displacement of the magnetism leakage preventing member in an axial direction of the first shaft, and

a circumferential direction displacement restricting portion that restricts a displacement of the magnetism leakage preventing member in a circumferential direction of the first shaft.

Claim 11. (New) The method of claim 9, wherein contact between the magnetism leakage preventing member and the first shaft prevents displacement between the magnetism leakage preventing member relative to the first shaft in at least one of an axial direction and a circumferential direction.

Claim 12. (New) The method of claim 9, wherein the first shaft comprises at least one of:

an axial direction displacement restricting portion that restricts a displacement of the magnetism leakage preventing member in an axial direction of the first shaft, and

a circumferential direction displacement restricting portion that restricts a displacement of the magnetism leakage preventing member in a circumferential direction of the first shaft.

Claim 13. (New) A torque sensor comprising:

a first shaft;

a magnetism leakage preventing member on an outer periphery of the first shaft; and

a first detecting cylinder on an outer periphery of the magnetism leakage preventing member, wherein contact between the magnetism leakage preventing member and the first shaft prevents displacement between the magnetism leakage preventing member relative to the first shaft in at least one of an axial direction and a circumferential direction.

Claim 14. (New) The torque sensor of claim 13, wherein said first shaft comprises at least one of:

an axial direction displacement restricting portion that restricts an axial displacement of the magnetism leakage preventing member relative to the first shaft, and

a circumferential direction displacement restricting portion that restricts a circumferential displacement of the magnetism leakage preventing member relative to the first shaft.

Claim 15. (New) The torque sensor of claim 13, further comprising:

a second shaft rotatably connected to the first shaft;

and

a second detecting cylinder integrally rotatable with the second shaft, one end of which is opposed to one end of the first detecting cylinder with a clearance; and

a first coil on an outer periphery of said first detecting cylinder and said second detecting cylinder.

Claim 16. (New) The torque sensor of claim 13, wherein said magnetism leakage preventing member comprises a synthetic resin molded to said first shaft.

Claim 17. (New) The torque sensor of claim 13, wherein said magnetism leakage preventing member comprises a first outer extended portion that restricts an axial displacement of said first detecting cylinder relative to said magnetism leakage preventing member in a first axial direction.

Claim 18. (New) The torque sensor of claim 17, wherein said magnetism leakage preventing member further comprises a second outer extended portion that restricts an axial displacement of said first detecting cylinder relative to said magnetism leakage preventing member in a second axial direction.

Claim 19. (New) The torque sensor of claim 13, wherein said first shaft comprises said axial direction displacement restricting portion.

Claim 20. (New) The torque sensor of claim 19, wherein said axial direction displacement restricting portion comprises at least one circumferential groove.

Claim 21. (New) The torque sensor of claim 20, wherein said magnetism leakage preventing member comprises at least one ring-like projection extending into said at least one circumferential groove.

Claim 22. (New) The torque sensor of claim 13, wherein said first shaft comprises said circumferential direction displacement restricting portion.

Claim 23. (New) The torque sensor of claim 22, wherein said circumferential direction displacement restricting portion comprises at least one axial groove.

Claim 24. (New) The torque sensor of claim 23, wherein said magnetism leakage preventing member comprises at least one projected streak that extends into said at least one axial groove.

Claim 25. (New) A method of manufacturing a torque sensor, the method comprising:

providing a molding die;

providing a first shaft in the molding die;

providing a first detecting cylinder in the molding die; and

injecting a resin into the molding die to mold a magnetism leakage preventing member.

Claim 26. (New) The method of claim 25, wherein contact between the magnetism leakage preventing member and the first shaft prevents displacement between the magnetism leakage

preventing member relative to the first shaft in at least one of an axial direction and a circumferential direction.

Claim 27. (New) The method of claim 25, wherein said first shaft comprises at least one of:

an axial direction displacement restricting portion that restricts an axial displacement of the magnetism leakage preventing member relative to the first shaft, and

a circumferential direction displacement restricting portion that restricts a circumferential displacement of the magnetism leakage preventing member relative to the first shaft.